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An Investigation of Information Systems Topic Coverage in IS versus Functional Area Business Journals

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Abstract

The purpose of this study is to explore the extent to which IS topics have been published in non-IS business journals (i.e., Accounting, Marketing, Operations, and Organizational Behavior), and to assess whether the IS research in these disciplines lags or leads the comparable coverage in the IS journals. Over 500,000 citations and abstracts have been collected from on-line sources and stored in a database, and analyses are underway.

Keywords: Content analysis; Comparative study; Diffusion of research; Organizational functions; History of IS

Introduction

The call for papers for this minitrack list of possible topics included the following three things, among others:

- Assessing the current state of intellectual relationships between the information systems area and other academic disciplines within the business school or outside the business school;
- Investigating the contributions from information systems to the development of other academic disciplines; and
- Applications of information systems in functional management areas such as Accounting Information Systems, Financial Information Systems, Marketing Information Systems, Manufacturing Information Systems, Human Resources Information Systems, and the like.

Our paper attempts to specifically address these topics by answering two research questions:

- (1) To what degree have papers about IS topics been published in core Accounting, Marketing, Operations, and Organizational Behavior journals?
- (2) Does the IS research in these discipline lag or lead comparable coverage in IS journals?

Answers to these questions will add to our field's understanding of the relationships between the various functional disciplines and Information Systems. As far as we can determine, no one has systematically examined the extent of IS topics covered in these disciplines, or compared this coverage with that in IS publication outlets.

The Study

There is a fairly long tradition of examining past publications to identify research activities, and to generate a view of the IS field (e.g., Ives et al., 1980; Culnan, 1986; Boyer and Carlson, 1989; Orlikowski and Baroudi, 1991; Alavi and Carlson, 1992; Cheon et al., 1992; Holsapple et al., 1994; Palvia et al., 1996; Farhoomand and Drury, 1999).

While providing important insights into the nature of our field, these past studies suffer from several limitations. First, they are typically based on some form of content analysis of articles that have appeared in a restricted set of top-tier IS journals, across a relatively short time period (e.g., Palvia et al. (1996) content-analyzed 630 articles spread over a five-year period). While such restrictions have been necessary in order to allow the researchers to delve deeply into the content of each publication, they may have led to a narrow, and distorted, view of the field. Second, to our knowledge, no study to date has examined non-IS sources for articles containing IS topical content. Given the cross-disciplinary nature of MIS in general, and particularly the breathtaking e-business transformations currently underway, we believe that it is critical for IS academics and practitioners alike to develop a better understanding of the interrelationships between IS and the various business functions.

Using electronic reference sources and database capabilities, we have devised an alternative approach for accessing, exploring, and learning from the prior literature, in order to expand our understanding of the field.

Methodology

Reference and abstract data were collected using two CD-ROM products, ABI-Inform (Business) and Dissertation Abstracts On-disc, over a 29-year period (1971-1999). We began by developing the following boolean search string to broadly identify articles having to do with information systems:

jr (information or data or computer or database or computing or decision or MIS or omega or acm or ieee) or ((information or computer or computer) and (system or technology or management))

The first part of this search string captured all references on the CD-ROMs with a journal field containing the terms information, data, computer, database, computing, decision, MIS, omega, acm or iee. For example, all articles published in *Information Systems Research*, *MIS Quarterly*, and any *ACM* journals were picked up by this part of the search.

The second part of the search string further identified all references containing a combination of [information or computer or data] and [system or technology or management] in any field. For example, articles containing one of the phrases *information system*, *information technology*, *information management*, *computer system*, *computer technology*, etc. in the journal name, title, abstract, keyword or other field were included.

The search returned over 500,000 references, most with accompanying abstracts. A VisualBasic program was developed to parse and store these data in a searchable database. This is the data source that will be analyzed to answer the research questions posed above.

The following steps are currently in process:

- (1) Develop queries to assign appropriate keywords to each reference, on the basis of the article title and abstract (keywords are based on the Barki, Rivard & Talbot (1988; 1993) MIS classification scheme).
- (2) Identify (and assign a code to) the academic journals in the fields of IS, Accounting, Marketing, Operations, and Organizational Behavior (i.e., we will ask functional experts within each field to select the top journals from a list).
- (3) Select references from the functional journals, examine the Barki, Rivard & Talbot keywords assigned to each reference, and develop a summary of IS topic coverage for each field. This will address our first research question.
- (4) Develop a summary of IS topic coverage in IS journals, and compare that to coverage in the other functional areas over time (i.e., using each reference's publication date). In this way, we hope to construct a time-based picture of the IS topics that have been examined within the IS discipline, versus coverage in the Accounting, Marketing, Operations, and OB disciplines. This will address our second research question.

What will be presented at AMCIS?

Once we have completed the steps described above, we will be able to offer answers to both of our research questions. In addition, we anticipate an interesting discussion regarding the breadth-for-depth tradeoff inherent in our research methodology, the strengths and

limitations of using electronic abstracts in general, and future research directions involving this dataset.

Answering the two research questions will help us more fully understand how the IS discipline informs other disciplines with respect to IS research topics. This understanding will help build relationships between IS and other academic disciplines, a key objective of this minitrack.

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